

WHAT IS CLAIMED IS:

Sub A17 1. A system for processing a semiconductor device, the system comprising:

a processing chamber; and

5 a first plate positioned within said processing chamber and defining a first internal cavity configured to receive a first gas through a first passage into said first internal cavity at a first temperature and to emit said first gas from said first internal cavity at a second temperature through a second passage.

10 2. The system of Claim 1, further comprising a second plate disposed adjacent to said first plate, wherein said second plate defines a second internal cavity configured to receive a second gas through a first passage into said second internal cavity at a first temperature and to emit said gas from said second internal cavity at a second temperature through a second passage.

15 3. The system of Claim 2, wherein said second passages comprise a plurality of holes defined on a surface of said first and said second plates.

20 4. The system of Claim 2, wherein said first plate and said second plate comprises a heat source for heating said plate to a preselected temperature.

25 5. The system of Claim 1, wherein said first gas is taken from the group consisting of N₂, He, H₂, O₂, Ar and gas mixtures containing He, H₂, O₂, Ar and N₂.

6. The system of Claim 1, wherein said internal cavity further comprises a buffer to disperse said first gas throughout said internal cavity.

EP A system for wafer processing comprising:
a chamber; and
at least one heatable plate positionable within said chamber, including:
an internal cavity defining an internal wall and configured to
5 receive a gas;
means for heating said internal wall to a preselected
temperature; and
an outlet portion defining a plurality of holes for emitting said gas.

10 8. The system of Claim 7, wherein said at least one heatable plate
comprises a first heatable plate and a second heatable plate disposed having
adjacent surfaces configured to receive a wafer therebetween.

15 9. The system of Claim 7, wherein said gas is taken from the group
consisting of He, H₂, O₂, Ar, N₂ and gas mixtures containing He, H₂, O₂, Ar,
and N₂.

20 10. The system of Claim 7, wherein said internal cavity further
comprises a buffer to disperse said first gas throughout said internal cavity.

11. A method for processing a semiconductor device, the
method comprising:

25 providing a first heatable member including:
an internal cavity defining an internal wall;
means for heating said internal wall to a preselected
temperature; and
an outlet portion defining a plurality of holes;
introducing a gas into said internal cavity of said first heatable member;
heating said gas substantially to said preselected temperature; and

impinging a surface of a semiconductor wafer with said heated gas to change the temperature of said semiconductor wafer.

12. The method of Claim 11, wherein heating said gas substantially to
5 said preselected temperature comprises heating said internal wall with a resistance
heating element to said preselected temperature.

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